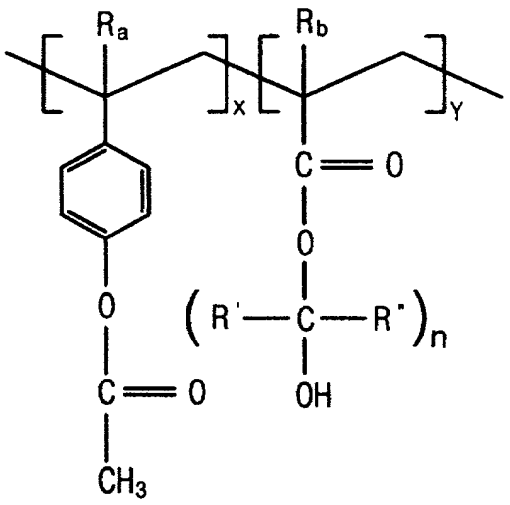
What is claimed:

1. A compound comprising the structure of the following Formula 1:

Formula I



wherein:

R_a, R_b are each independently hydrogen or methyl;

R' and R" are each independently selected from the group consisting of -H, -OH, $-OCOCH_3$, -COOH, $-CH_2OH$, alkyl having 1 to 6 carbon atoms and alkoxy alkyl having 1 to 6 carbon atoms;

n is an integer ranging from 1 to 5;

x and y each represent mole fractions ranging from 0.01 to 0.99.

2. The compound according to claim 1 which is poly[acetoxystyrene-(2-hydroxyethylacrylate)], wherein Ra and Rb are each independently a hydrogen, R' and R" are each independently a hydrogen, n is 2, and x, y are each independently 0.5.

3. The compound according to claim 1 which is poly[acetoxystyrene-(3-hydroxypropylacrylate)], wherein Ra and Rb are each independently a hydrogen, R' and R" are each independently a hydrogen, n is 2, and x, y are each independently 0.5.

4. The compound according to claim 1 which is poly[acetoxystyrene-(4-hydroxybutylacrylate)], wherein Ra and Rb are each independently a hydrogen, R' and R" are each independently a hydrogen, n is 2, and x, y are each independently 0.5.

5. The compound according to claim 1 which is poly[acetoxystyrene-(2-hydroxyethyllmethacrylate)], wherein Ra and Rb are each independently a hydrogen, R' and R" are each independently a hydrogen, n is 2, and x, y are each independently 0.5.

6. The compound according to claim 1 which is poly[acetoxystyrene-(3-hydroxypropylmethacrylate)], wherein Ra and Rb are each independently a hydrogen, R' and R" are each independently a hydrogen, n is 2, and x, y are each independently 0.5.

7. The compound according to claim 1 which is poly[acetoxystyrene-(4-hydroxybutylmethacrylate)], wherein Ra and Rb are each independently a hydrogen, R' and R" are each independently a hydrogen, n is 2, and x, y are each independently 0.5.

8. A method for preparing a compound of Formula 1 of claim 1, which comprises:

reacting acetoxystyrene monomer, hydroxyalkylacrylate monomer in a solvent to obtain a product; and

polymerizing the product with a polymerization initiator.

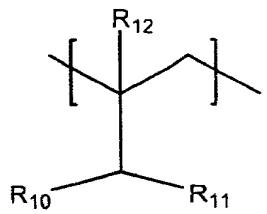
9. The method according to claim 8, wherein the solvent is selected from the group consisting of tetrahydrofuran, toluene, benzene, methylethylketone, dioxane and mixtures thereof.

10. The method according to claim 8, wherein the polymerization initiator is selected from the group consisting of 2,2'-azobisisobutyronitrile, acetylperoxide, lauryl peroxide, t-butylperoxide, and mixtures thereof.

11. The method according to claim 8, wherein the polymerization reaction is carried out at a temperature ranging from about 50 to about 90°C.

12. An anti-reflective coating composition comprising a compound of Formula 1 of claim 1 and a compound of the following Formula 2:

Formula 2



wherein,

R_{10} and R_{11} are each independently C_{1-10} alkoxy or C_{1-10} alkyl, and R_{12} is hydrogen or methyl.

13. The anti-reflective coating of claim 12 wherein the compound of Formula 1 is poly[acetoxystyrene-(2-hydroxyethylacrylate)].

14. The anti-reflective coating of claim 12 wherein the compound of Formula 1 is poly[acetoxystyrene-(3-hydroxypropylacrylate)].

15. The anti-reflective coating of claim 12 wherein the compound of Formula 1 is poly[acetoxystyrene-(4-hydroxybutylacrylate)].

16. The anti-reflective coating of claim 12 wherein the compound of Formula 1 is poly[acetoxystyrene-(2-hydroxyethyllmethacrylate)].

17. The anti-reflective coating of claim 12 wherein the compound of Formula 1 is poly[acetoxystyrene-(3-hydroxypropylmethacrylate)].

18. The anti-reflective coating of claim 12 wherein the compound of Formula 1 is poly[acetoxystyrene-(4-hydroxybutylmethacrylate)].

19. A method for preparing an anti-reflective coating comprising:

dissolving a compound of Formula 1 of claim 1 and a compound of Formula 2 in an organic solvent to obtain a solution;

filtering the solution to obtain a filtrate;

coating the filtrate onto a lower layer of the substrate resulting in a coated layer disposed on the lower layer; and

hard-baking the coated layer.

20. The method according to claim 19, wherein said organic solvent is selected from the group consisting of ethyl-3-ethoxypropionate, methyl 3-methoxypropionate, cyclohexanone, and propyleneglycolmethylether acetate.

21. The method according to claim 19, wherein said organic solvent is used in an amount ranging from about 200 to about 5,000 wt. % based on the total weight of the anti-reflective coating resin used.

22. The method according to claim 19, wherein the hard-baking step is carried out at a temperature ranging from about 100 to about 300°C.

23. A semiconductor device prepared from the anti-reflective coating composition of claim 12.

24. A semiconductor device prepared from the anti-reflective coating composition of claim 13.

25. A semiconductor device prepared from the anti-reflective coating composition of claim 14.

26. A semiconductor device prepared from the anti-reflective coating composition of claim 15.

27. A semiconductor device prepared from the anti-reflective coating composition of claim 16.

28. A semiconductor device prepared from the anti-reflective coating composition of claim 17.

29. A semiconductor device prepared from the anti-reflective coating composition of claim 18.